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SELECTION AND TRAINING, A SURVEY OF IOWA MANUFACTURING FIRMS. MONOGRAPH SERIES NO. 4.

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INFORMATION ON EMPLOYEE SELECTION AND TRAINING ACTIVITIES WAS SECURED FROM QUESTIONNAIRES RETURNED BY 215 OF 283 FIRMS EMPLOYING AT LEAST 100 PERSONS. DATA FROM 207 SEPARATE ITEMS FOR EACH FIRM WERE KEY PUNCHED AND TABULATED INTO MULTIVARIATE CROSS-CLASSIFICATIONS. OVER 60 PERCENT OF THE FIRMS WERE IN CITIES HAVING OVER 25,000 POPULATION, 40 PERCENT WERE BRANCHES OR DIVISIONS OF MULTI-PLANT COMPANIES, 50 PERCENT WERE UNDER 25 YEARS OLD, AND 53 PERCENT HAD BETWEEN 100 AND 250 EMPLOYEES. RECRUITMENT TECHNIQUES VARIED WITH THE TYPE OF EMPLOYEE TO BE SELECTED. NEWSPAPER ADVERTISING WAS MOST COMMONLY USED FOR MANAGERIAL, PROFESSIONAL, AND TECHNICAL EMPLOYEES, PUBLIC EMPLOYMENT AGENCIES FOR CLERICAL EMPLOYEES, AND UNSOLICITED APPLICATIONS FOR HOURLY EMPLOYEES. AS THE EMPLOYMENT LEVEL OF THE INDIVIDUAL TO BE SELECTED INCREASED, THE GREATER WAS THE LIKELIHOOD THAT THE FIRM WOULD USE SOME FORM OF ADVERTISING, CONTACT A PRIVATE EMPLOYMENT AGENCY, OR RECRUIT THROUGH TECHNICAL INSTITUTES OR COLLEGES. ONLY 159 FIRMS SUPPLIED INFORMATION ON TRAINING PROGRAMS. OF THESE, 85.5 PERCENT OFFERED NEW EMPLOYEE ORIENTATION, 47.2 OFFERED APPRENTICESHIP PREPARATION, 60.4 PERCENT OFFERED CLERICAL EDUCATION, AND 48.3 PERCENT PROVIDED TECHNICAL TRAINING. MOST TRAINING WAS OFFERED ON AN INPLANT BASIS. PRACTICES MOST FREQUENTLY USED WERE ON-THE-JOB TRAINING, CORRESPONDENCE COURSE, OUT-OF-PLANT TRAINING, TUITION REFUND BY EMPLOYERS TO ENCOURAGE EMPLOYEE PARTICIPATION IN TRAINING PROGRAMS, AND EVALUATION OF TRAINING ACTIVITIES BY PERFORMANCE RECORDS AND RESULTS-ORIENTED DATA. APPENDIXES INCLUDE THE SURVEY INSTRUMENTS. (EM)

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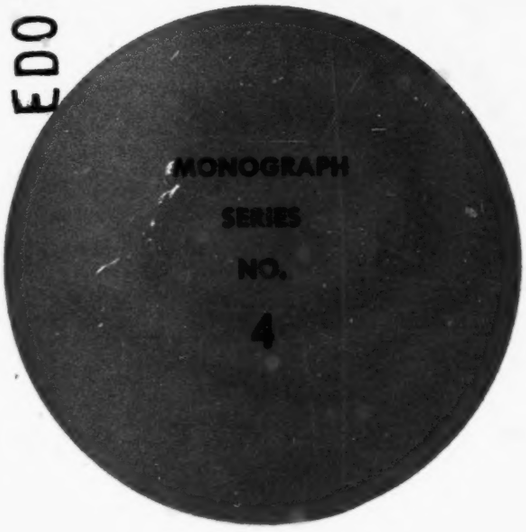
SELECTION AND TRAINING



A Survey of Iowa Manufacturing Firms

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Monograph Series No. 4 December, 1966

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FOREWORD

This monograph deals with the employee selection and training activities of Iowa manufacturing firms with 100 or more employees. All the data contained in this study were provided by these organizations. Company personnel, therefore, may find in it little that is new. To them, however, it may be of some interest and practical value to see an aggregate picture of selection and training and to review their own activities in the light of this background.

It is hoped that those not familiar with this aspect of corporate life will be interested to learn of this dynamic and rapidly developing sector and to evaluate its significance to American business and industry. Also, to those whose working careers began a generation or so ago, the types and kinds of selection and training activities currently in use will probably appear little short of surprising.

The authors of this study are indebted to the encouragement and financial aid provided by Iowa's Department of Public Instruction, Division of Vocational Education, Occupational Research and Developmental Coordinating Unit. We especially wish to thank Dr. Trevor Howe, Dr. Kenneth Wold, and Mr. Donald Green. Also, our sincere appreciation is extended to the Iowa manufacturing firms that participated in this study.

The entire manuscript was edited by Mrs. Kathleen McCaffrey. Mr. Robert W. Parks, a graduate student in business administration and research assistant at the Center for Labor and Management, was responsible for the questionnaire pretest and collection and treatment of the data. Mr. Duane E. Thompson, the Center's Program Director, wrote Chapter III—Background Data and Chapter IV—Employee Selection. Dr. Don R. Sheriff, the Center's Director, wrote Chapter I—Introduction, Chapter II—Methodology, and Chapter V—Employee Training. Chapter VI—Postscript was written by Dr. Sheriff and Mr. Thompson.

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Chapter 1

INTRODUCTION

The selection and training of employees for U.S. business and industry is big business—much bigger than many people realize. For example, last year *The Wall Street Journal* reported that "the bill for corporate educational efforts, rising 5 per cent to 6 per cent a year, will hit $4.5 billion . . . half of what it costs to run the nation's colleges and universities."[1] This is a staggering amount of money, and it represents an equally staggering investment in time, manpower, equipment, and physical facilities.

The reasons for this investment in employee development are not too hard to find. A few years ago over 100 presidents of large corporations were polled as to their major source of internal concern and worry. The majority of their replies centered around employees they had and employees they needed. It was the consensus of this group that poor employee performance is rarely the result of an intentional act. Often it can be attributed to poor selection practices and a lack of job-oriented education. What is important is that the solution appears to lie more in effective selection and training of employees in requisite job skills than in oral harangues or written threats.

Many of management's most vexing problems can be resolved by proper selection practices and training methods. For example, difficulty in hiring skilled workers, quality standards that are not being met, complaints because of poor service, excessive number of employee accidents, low morale —all are major managerial problems, and all are within the purview of effective employee selection and training.

Training endeavors to resolve or minimize these problems by first giving to each employee an interest in his job and then by helping him obtain the knowledge and skills he needs to do that job well. Almost twenty years ago George D. Halsey said:

> Training is important because it gives to the worker and to management what each wants without taking away anything from the other. The younger worker wants opportunity for advancement; the older worker wants security. Both want to be able to do their work well enough so that they feel proud of their performance; both want to feel that their work is purposeful, useful, important; both want increased earnings. Management wants increased production with

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[1] George Melloan, "Company Profs," *The Wall Street Journal* (February 26, 1965), p. 1.

> lower unit costs, a working force which understands management's problems, employees who are happy in their work relations.[2]

Selection and training properly planned and intelligently executed helps materially toward bringing about all of these conditions.

The American Management Association's Lawrence Appley for many years has ably defended the thesis that management is the development of people. Machines have fixed performance levels that require specified limits on specified jobs. Their performance is predictable. People, on the other hand, are engineered to grow. Their performance levels are expandable. They provide the dynamic and synergetic ingredient that accounts for the difference between success and failure. Douglas McGregor put it well when he said:

> The motivation, the potential for development, the capacity for assuming responsibility, the readiness to direct behavior toward organizational goals are all present in all people. Management does not put them there. It is the responsibility of management to make it possible for people to recognize and develop these human characteristics for themselves.[3]

Although most organizations give "lip service" to his philosophy—the importance and necessity for employee development—some make little or no effort to translate these verbal expressions into practice. Still others have invested substantial sums of money and an inordinate amount of time and energy into allegedly "modern selection and training programs" only to find the end product disappointing.

It is not the purpose of this monograph to explore the reasons for these experiences. The literature on selection and training is rich in general discussions of this nature. Unfortunately, most are heavily polemical in character and rest on a meager foundation of systematically recorded data. In fact, it is one of the curiosities of the literature in this area that we know very little about the specific practices used by firms in the development of their personnel. There is a dearth of empirical information.

Also, there appears to be a great disparity between hypothesis and evidence. Much of what we know or believe about employee selection and training is distilled from "common sense" and from the experience of practitioners. The great bulk of this knowledge has never been rigorously scrutinized. While the literature contains many assertions, there is little evidence to determine whether these assertions hold up in the world of fact.

This situation is further complicated by the relatively recent entrance of the federal government in the field of training, and the growth in the va-

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[2] George D. Halsey, *Training Employees*, New York: Harper & Brothers, 1949, pp. 1 and 2.

[3] Douglas McGregor, *The Human Side of Enterprise*, New York: McGraw-Hill, 1962.

riety of programs now available under such legislation as the Vocational Education Act, Higher Education Act, Manpower Development and Training Act, State Technical Services Act, and Economic Opportunity Act. These activities at times inadvertently tend to overshadow the significant contributions of the private sector.

The controlling purpose of this monograph is to report on one study carried out in the private sector—a survey of employee selection and training practices in Iowa manufacturing firms with 100 or more employees. Information was sought in four specific areas, using a questionnaire as the major survey tool:

1. Background Data—organizational structure, age of firm, geographic location, main products, number and kind of employees, personnel services offered, and the absence or presence of job analysis and performance appraisal programs.
2. Employee Selection—employment techniques used by major job classification, frequency of their use, and productivity of each technique.
3. Employee Training—types and kinds of training programs available to employees, training techniques used, company practices used in the promotion of training activities, and information on specific training activities.
4. Need Analysis and Evaluation—the manner in which training needs are determined, the way in which training activities are evaluated, and information on current and projected manpower shortages.

In summary, the purpose of this study was to provide empirical data on employee selection and training practices. While no attempt will be made to evaluate the information presented, it is hoped that it will be of value to managers, personnel specialists, counselors, educators, and others interested in the growing role of private enterprise in the field of human resource development.

Chapter II

METHODOLOGY

This chapter will present a description of the organizations cooperating in this study, the methods and procedures used in the development of the survey questionnaire, the system employed in the collection and treatment of the data, and some observations on the limitations of this research.

Methods and Procedures

The universe for this inquiry was all Iowa manufacturing firms employing 100 or more people. It was initially estimated that approximately 300 organizations would fall into this category. Rather than take a random sample of such a small universe, it was decided to use a quantitative case approach and survey all companies.

A lengthy survey questionnaire was developed by the authors, using the Center for Labor and Management's survey form entitled Management Development Survey of Iowa Industry (1965), and the U.S. Department of Labor's form entitled Report on Employee Training (1961) as points of departure (see Appendix A). The questionnaire went through three major reviews by the Center staff which resulted in numerous item revisions, additions, and deletions. Particular attention was paid to the acceptability and intelligibility of the questions from the respondents' point of view.

The questionnaire, entitled Employee Selection and Training Survey, was then made ready for field pretesting. Fifteen firms cooperated in this test. They were selected on the basis of size and willingness to cooperate. Three firms were in the 100-250 employee range; two in the 251-500 employee range; three in the 501-1,000 range; and seven had over 1,000 employees. All were familiar with the Center's operation and had cooperated in past program and research endeavors.

To manufacturing companies with fewer than 250 employees, the questionnaire was mailed to the firm's president. To organizations with more than 250 employees, the questionnaire was sent to the company's director or vice president of personnel. This was done because most enterprises with fewer than 250 employees do not employ full-time personnel managers. In all cases the questionnaire was addressed to a specific individual and was accompanied by a personally signed letter explaining the purpose of the survey and pretest (see Appendix B).

Their assistance was solicited in two areas: first, in answering all items on the questionnaire, and second, in giving their opinion as to the strengths and weaknesses of the research tool. All fifteen firms cooperated in the pretest and offered many helpful suggestions for improving the form. It was the general consensus of this group that the questionnaire, though lengthy, should not be substantially shortened. Several commented that the form was very comprehensive and yet easy to fill out.

Rather than appreciably shorten the length of the form in the interest of a higher percentage of returns, the authors decided to stay with a comprehensive questionnaire and be prepared to follow up in as rigorous a manner as time and funds permitted in the securing of at least a 70 per cent total return.

Also, based on the suggestions of the fifteen cooperating manufacturing firms, fifteen items were added to the form, none were deleted, and nine items were revised. Table I offers a composite of these changes by section of the questionnaire.

Table I
Questionnaire Changes

Section	*Items Revised*	*Items Added*	*Items Deleted*	*Totals*
Background Data	1	6	–	7
Employee Selection	–	3	–	3
Employee Training	3	6	–	9
Need Analysis and Evaluation	5	–	–	5
Totals	9	15	0	24

The revised Employee Selection and Training Survey was put in final design, printed, and prepared for mailing (see Appendix C).

Collection and Treatment of Data

While the questionnaire was being designed, field tested, modified, and printed, a mailing list of Iowa manufacturers with 100 or more employees was being compiled. As with the pretest, it was decided to send the questionnaire to the presidents of those firms employing fewer than 250 people, and to the chief personnel administrator of those companies with more than 250 employees. This, of course, necessitated the inclusion in the mailing list of specific names and titles.

The major sources for the development of this mailing list were the *Directory of Iowa Manufacturers, 6th Edition,* 1965, and the Center's Management mailing list. *The American Society of Personnel Administration Directory,* 1964; *American Society of Training and Development Direc-*

tory, 1965; and *American Psychological Association Directory,* 1965, were used as secondary sources. These latter directories were of considerable value where the major sources did not contain the name of an organization's personnel officer.

The week of February 7, 1966, the questionnaire was mailed to 283 manufacturing firms. Each form was accompanied by a personally signed letter explaining the purpose of the survey and soliciting the respondent's cooperation. A return envelope, addressed and stamped, was enclosed. This first mailing garnered a 44 per cent return.

The week of March 7, 1966, a second mailing went out to those who did not return a completed questionnaire. As with the first, each form was accompanied by a personally signed letter and an addressed and stamped return envelope. This mailing resulted in the return of an additional seventy questionnaires and raised the total percentage return to 72 per cent.

A third and final mailing went out the week of April 4, 1966. This time no questionnaire was sent, only a personally signed letter asking for assistance and cooperation. This mailing brought in twenty more forms and set the total returns at 215, and the overall percentage at 76. Appendix D contains copies of the initial letter and the follow-up letters.

Two hundred and eighty-three returns were mailed, excluding the fifteen used in the field test. In other words, a total of 298 questionnaires were mailed to Iowa manufacturers with 100 or more employees. This figure, however, was adjusted downward by fifteen. Based on the results of the survey, it was found that one firm had gone out of business; another was located in Illinois, not Iowa; six were not manufacturing firms; and seven had fewer than 100 employees. Table II provides an analysis of each mailing and the results obtained.

Table II
Analysis of Questionnaire Mailing

Number of Employees by Category	*Number of Firms by Category*	*Number of Returns by Mailing*				*Per Cent of Returns by Mailing*			
		1	*2*	*3*	*Total*	*1*	*2*	*3*	*Total*
100-250	173	66	39	11	116	38.2	22.5	6.4	67.1
251-500	54	25	15	5	45	46.3	27.8	9.2	83.3
501-1,000	23	13	7	3	23	56.5	30.4	13.1	100.0
Over 1,000	33	21	9	1	31	63.6	27.3	3.0	93.9
Totals	283	125	70	20	215	—	—	—	76.0

As the questionnaires were received, checked for completeness, and logged, the information on each form was punched on four IBM cards and verified. There were 207 separate items tabulated for each firm.

When all the cards were completed, the responses were machine tabulated using the NUCROS Program developed by K. Janda of Northwestern University and adapted by M. Wood of The University of Iowa. NUCROS is a general program used for preparing multivariate cross-classifications. It uses information that is punched into control cards to determine how to process the raw data cards. The following kinds of information were sought:

1. Data totals by item, category, and variable
2. Per cents by item, category, and variable
3. Comparison by correlation coefficients, i.e., Goodman-Kruskely gamma
4. Comparisons by Chi Square

Five separate computer runs were necessary to obtain these data. The next chapter, Chapter III, contains background information on the organizational structure, geographic location, age, and main products of the firms surveyed. Chapter IV provides information on their employee selection techniques, Chapter V reviews the findings on employee training, and Chapter VI offers a summary statement of the study.

Limitations of Study

Before examining the data, a few observations on the limitations of this research are in order. First, this study is limited to Iowa manufacturing firms with 100 or more employees. Obviously, data on these companies cannot be construed as a representative sample of U.S. industry. Secondly, despite the generosity of the Occupational Research Coordinating Unit for the state of Iowa, which funded this project on a matching grant basis, only a limited amount of funds was available for this research. Therefore, despite the fact that the survey tool was developed using current research techniques and procedures, neither the questionnaire nor the data were as rigorously tested for validity and reliability as the authors would have desired. Finally, this study is not evaluative. It is not concerned with such concepts as "good" or "effective"; this is for general treatises and philosophical analysis. The problem was one of investigation, not doctor. This study is concerned with describing and comparing employee selection and training practices, not evaluating them.

Chapter III

BACKGROUND DATA

This chapter consists of three main parts which correspond with the three segments of Section I—Background Data of the survey questionnaire. They are: *General Data*—name, geographic location, organizational structure, age, and main products of participating firms; *Employment Data*—number of employees in each of several categories and whether employment in these categories had increased or decreased during the past five years; and *Personnel Services Data*—personnel specialists employed and presence or absence of job analysis and performance appraisal programs.

General Data

The data summarizing geographic location of firms, size of city where located, organizational structure, age of company or plant, and main products are presented in Tables III through VII.

Table III
Geographical Location
N = 215

	Firms Responding	
*Section of State**	*Number*	*Per Cent*
Northwest	24	11.2
Southwest	5	2.3
North Central	29	13.5
South Central	34	15.8
Northeast	32	14.9
Southeast	91	42.3

*Section of State is based on an arbitrary division of the state into six areas approximately equal in size. The state was first divided in northern and southern halves with U.S. Highway #30 as the dividing line, and then into three sections from east to west. Appendix E contains a map showing the location of specific areas.

As indicated in Table III, the geographic locations of manufacturing firms responding to the survey are not evenly distributed throughout the state. Whereas only 2.3 per cent are located in the southwest section of the state, 42.3 per cent are located in the southeast section. Although there is some difference when the state is compared north versus south (39.6 per cent in the northern half versus 60.4 per cent in the south), the greatest

difference occurs from east to west with 57.2 per cent of the companies situated in the two eastern sections, 29.3 per cent in the central portion, and only 13.5 per cent of the responding companies in the two western areas.

The following table presents information on the size of the community where the manufacturing firms responding to this survey are located.

Table IV
Size of City
N = 215

	Firms Responding	
Population of City	*Number*	*Per Cent*
Less than 1,000	1	0.5
1,001-5,000	20	9.3
5,001-10,000	23	10.7
10,001-25,000	33	15.3
25,001-50,000	42	19.5
Over 50,000	96	44.7

The data presented in Table IV tend to confirm that industrialization and urbanization are directly related. Although 9.8 per cent of the firms participating in the survey are located in towns with population of less than 5,000, over 60 per cent of them are found in cities of 25,000 or more, with 44.7 per cent in areas with over 50,000 population.

Table V provides information on the organizational structure of the organizations responding to this section of the questionnaire.

Table V
Organizational Structure
N = 213

	Firms Responding	
Type of Structure	*Number*	*Per Cent*
Single plant company	72	33.8
Parent unit of multi-plant company	37	17.4
Branch or division of multi-plant company	85	39.9
Subsidiary of multi-plant company	19	8.9

The seventy-two single plant companies and the eighty-five branches or divisions of multi-plant companies account for 73.7 per cent of all organizations answering the survey. Very few of these businesses are large; only 11.0 per cent have over 1,000 employees. On the other hand, 21.6 per cent of those firms classified as parent units of multi-plant companies and 31.6 per cent of the enterprises classified as subsidiaries of multi-plant companies have more than 1,000 employees.

Table VI details information on the age of the company or plant.

Table VI
Age of Organization
N = 154

	Firms Responding	
Age in Years	*Number*	*Per Cent*
1-10	29	18.8
11-25	32	20.8
26-50	46	29.9
51-75	26	16.9
76-100	14	9.1
Over 100	7	4.5

The above data reflect the relative youth of Iowa manufacturing organizations. Nearly one-fifth, 18.8 per cent, of these firms have been in existence ten years or less, and 39.6 per cent were established during the past twenty-five years. Less than one-third, 30.5 per cent, of the companies have been in business for more than fifty years, and only 4.5 per cent have been in business for more than 100 years.

The following table furnishes information on the main products produced by responding manufacturers.

Table VII
Main Products
N = 212

	Firms Responding	
Major Classification	*Number*	*Per Cent*
Stone, clay and glass	8	3.8
Fabricated metal, wood and primary metal	43	20.3
Machinery and equipment	53	25.0
Electronic equipment, components and instruments	17	8.0
Food processing and kindred products	48	22.6
Paper, printing, publishing	21	9.9
Chemical and ordnance	8	3.8
Rubber and plastic goods	7	3.3
Apparel and related goods	7	3.3

The most common main products of Iowa manufacturers are machinery and equipment with 25.0 per cent of the total; food processing and kindred products, 22.6 per cent; fabricated metal, wood, and primary metal, 20.3 per cent; paper, printing, publishing, 9.9 per cent; and electronic equipment, components, and instruments, 8.0 per cent. The companies engaged in these five major classifications of main products represent 85.8 per cent of all those participating in the survey. The two most frequent classifications of main products reflect the agricultural emphasis of the state–indirectly by machinery and equipment, since many of these companies manufacture

agricultural equipment and farm implements, and directly by food processing and kindred products. On the other hand, main product categories such as fabricated metal, wood, and primary metal; paper, printing, publishing; and electronic equipment, components, and instruments attest to the diversity of Iowa manufacturing.

Employment Data

The second part of the Background Data section of the questionnaire pertained to employment data. Two types of information were requested. The first type pertained to the approximate number of full-time employees by total, sex, and occupational level. These data are summarized in Tables VIII through X. Table VIII offers information on employment by size of firm.

Table VIII
Total Employment
N = 215

	Firms Responding	
Number of Employees	*Number*	*Per Cent*
100-250	115	53.5
251-500	46	21.4
501-1,000	23	10.7
Over 1,000	31	14.4

As would be expected with the high percentage of relatively young, single-plant companies and branches or divisions of multi-plant companies surveyed, the majority of the manufacturing enterprises are relatively small. Specifically, 53.5 per cent of the concerns responding to the survey employ 100-250 people; 21.4 per cent have 251-500 employees; 10.7 per cent employ 501-1,000; and only 14.4 hire more than 1,000.

Data on employment by sex are found in Table IX.

Table IX
Employment by Sex
N = 206

	Firms Responding			
	Number		*Per Cent*	
Number of Employees	*Male*	*Female*	*Male*	*Female*
1-25	13	94	6.2	44.5
26-50	10	30	4.7	14.2
51-100	24	32	11.4	15.2
101-200	71	24	33.6	11.4
201-300	32	7	15.2	3.3
301-600	30	18	14.2	8.5
601-1,000	29	2	4.3	1.9
Over 1,000	22	4	10.4	1.9

As shown in Table IX, only thirteen or 6.2 per cent of the firms surveyed employ fewer than twenty-five men, whereas ninety-four or 44.5 per cent have fewer than twenty-five female employees. Similarly, ninety-three or 44.1 per cent of the participating organizations employ more than 200 men, but only thirty-one or 14.6 per cent have more than 200 female employees. Of these thirty-one firms, 74.2 per cent fall into one of the following three main product categories: electronic equipment, components, and instruments; food processing and kindred products; and paper, printing, and publishing.

The following table furnishes data on the number and per cent of employees by job category.

Table X
Employment by Occupational Classification
N = 212

Category	*Number of Employees*	*Per Cent*
Managerial	4,802	4.2
Supervisory	6,402	5.6
Professional and Technical	7,660	6.7
Clerical	13,718	12.0
Skilled	23,092	20.2
Semi-skilled	32,581	28.5
Unskilled	24,121	21.1
Other	1,943	1.7
Total	114,319	100.0

Although the majority of these enterprises employ 250 or fewer employees, most of the employees, 57.1 per cent, work in firms employing 1,000 or more. In the aggregate these 212 companies represent a total employment of 114,319 employees, which is 10.9 per cent of all those estimated to be employed in the state of Iowa.[1] Of this total, two-thirds are classified as hourly employees with 23,092 or 20.2 per cent skilled, 32,581 or 28.5 per cent semi-skilled, and 24,121 or 21.1 per cent unskilled. Clerical employees is the fourth largest category with 7,660 employees, 12.0 per cent of the total, followed by professional and technical, 6.7 per cent, supervisory 5.6 per cent, and managerial with 4.2 per cent of the total.

The second type of data requested in the employment section of the survey pertained to increases and decreases in employment during the past five years. This information was requested because recent history is often

[1] For an excellent discussion of employment trends in Iowa see Mario Frank Bognanno, *Iowa Employment Patterns and Projections, 1940-1970,* Monograph Series No. 1, Iowa City: The University of Iowa, September, 1966.

the best indicator of what might be expected in the future. The data are summarized in Table XI.

Table XI
Employment Changes—Previous Five-Year Period

Category	Number of Firms	Per Cent of Firms Responding that Indicated Employment Has		
		Increased	*Remained Same*	*Decreased*
Managerial	184	59.2	34.8	6.0
Supervisory	177	60.5	31.1	8.5
Professional and Technical	148	67.6	25.7	6.8
Clerical	181	63.5	26.5	9.9
Skilled	149	65.1	23.5	11.4
Semi-skilled	161	66.5	21.7	11.8
Unskilled	154	54.5	27.9	17.5
Other	27	55.6	37.0	7.4
Total	165	77.0	12.7	10.3
Male	161	76.4	13.7	9.9
Female	165	67.3	21.2	11.5

As indicated in this table, 77.0 per cent of the firms reported increases in total employment and only 10.3 per cent reported decreases for the past five-year period. The increases in employment were, however, differentially distributed between male and female employees and among the various categories of employees. More of the firms (approximately 10 per cent) indicate increases for male employment than for female employment. The categories that increased most frequently are the more sophisticated and those requiring higher skill levels. For example, 67.6 per cent of the organizations indicated that the number of professional and technical employees had increased, whereas only 6.8 per cent reported professional and technical employment had decreased. Similarly, the percentage of firms indicating increases in the skilled and semi-skilled categories were 65.1 and 66.5 per cent, respectively; only 11.4 and 11.8 per cent reported decreases in these categories. On the other hand, only 54.5 per cent of the firms indicated that employment increased in the unskilled category, and 17.5 per cent reported a decrease in this category. In other words, it would appear as if there has been a general upgrading of the manufacturing work force during the past five years.

Personnel Services Data

The third and final part of the section on Background Data pertained to personnel services. It was the intent in this section to collect information which would provide an indication of the personnel services available to the employees of the organizations surveyed. Data were requested as to

the various personnel specialists employed and as to the existence of job evaluation and performance appraisal programs.

Personnel specialist information is depicted in Table XII.

Table XII
Employment of Personnel Specialists
N = 185

Type of Specialists	*Number*	*Per Cent*
Full-time Personnel Director	104	56.2
Full-time Training Director	15	8.1
Full-time Wage and Salary Analyst	44	6.5
Full-time Employment Manager	29	20.5
Part-time Personnel Director	12	23.8
Part-time Training Director	38	15.7
Part-time Wage and Salary Analyst	28	15.1
Part-time Employment Manager	43	23.2

Of the concerns providing data for this section, only 56.2 per cent indicated that they have a full-time personnel director. The percentage of companies employing other full-time specialists is even less. For example, only 8.1 per cent of these businesses have a full-time training director, 6.5 per cent employ a full-time wage and salary analyst, and 20.5 per cent have a full-time employment manager.

As would be expected, there is a direct, positive relationship between the total number of employees in the organization and the likelihood of the organization's employing a full-time personnel director, training director, wage and salary analyst, and/or employment manager. This observation is based on significant Chi Square values ($P<.01$) that compared total employment with the various full-time personnel specialists.[2]

Whereas 56.2 per cent of the organizations employ a full-time personnel director, 86.4 per cent with 501-1,000 employees and 93.3 per cent with more than 1,000 employees have a full-time personnel director. Similarly, 9.1 per cent of the firms with 501-1,000 employees and 32.3 per cent of those with more than 1,000 employees have a full-time training director; 4.5 per cent of firms with 501-1,000 employees and 25.8 per cent of those with more than 1,000 employees have a full-time wage and salary analyst; and, finally, 31.8 per cent of the concerns with 501-1,000 employees and 67.7 per cent of the firms with more than 1,000 employees have a full-time employment manager.

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[2] The 3 X 6 contingency tables of raw data yielded the following Chi Square values: total number of employees versus full-time personnel director $^2 = 59.49$ ($P< .01$), versus full-time training director $^2 = 29.71$ ($P< .01$), versus full-time wage and salary analyst $^2 = 23.32$ ($P< .01$), and versus full-time employment manager $^2 = 62.47$ ($P< .01$).

A further indication of the importance placed on the personnel function is the title of the highest ranking personnel office. This information is found in Table XIII.

Table XIII
Title of Highest Ranking Personnel Officer
N = 96

Title	*Number*	*Per Cent*
Vice President of Industrial Relations	8	8.3
Manager or Director of Personnel	65	67.7
Manager or Director of Industrial Relations	17	17.7
Employment Manager	6	6.3

As indicated from this information, the most frequently used title is manager or director of personnel. This is particularly true in concerns of fewer than 1,000 employees. In companies with more than 1,000 employees, 14.3 per cent of the highest ranking personnel officers have the title of vice president of industrial relations and 35.8 per cent have the title of manager or director of industrial relations. This is logical since there is a strong direct correlation (Gamma = .732) between total employment and number of full-time personnel in the training department.

Data summarizing job analysis and performance appraisal programs are presented in the following table.

Table XIV
Job Analysis and Performance Appraisal Programs
N = 173

	Firms Answering Yes			
	Job Analysis		*Performance Appraisal*	
Category of Employee	*Number*	*Per Cent*	*Number*	*Per Cent*
Managerial	97	56.1	110	63.6
Supervisory	107	61.8	119	68.8
Professional and Technical	90	52.0	97	56.1
Clerical	110	63.6	111	64.2
Skilled	97	56.1	83	48.0
Semi-skilled	96	55.5	82	47.4
Other	19	11.0	17	9.8

Slightly more than half of the firms responding indicated that they have some form of job analysis program for the various levels of employees—the levels most frequently covered by such a program being supervisory and clerical personnel. Similarly, slightly more than half of the firms responding indicated some form of performance appraisal program for managerial, supervisory, professional and technical, and clerical employees, whereas

slightly less than half have a similar program for skilled and semi-skilled people.

Summary

In summary it can be said that Iowa manufacturing firms represent a broad range of organizational structures and ages of company or plant, with only minor concentration in any one type of structure or age category. This is not the case, however, with geographical location, size of city where located, and main products. Nearly half (42.3 per cent) of the firms responding to the questionnaire are located in the southeast section of the state. Similarly, a disproportionate number (44.7 per cent) of responding firms are located in large (50,000 or more population) cities. The distribution of main products results in a concentration in three areas: fabricated metal and wood and primary metals, machinery and equipment, and food processing and kindred products. Most of the organizations participating in the survey are small and relatively young. Although the greatest likelihood of increase in employment appears to be in the area of professional and technical employment, two-thirds of the employees are classified as skilled, semi-skilled, or unskilled. The trend, however, is toward greater sophistication and higher skill. More than half of the firms surveyed have a full-time personnel director and programs of job analysis and performance appraisal. These services are present more frequently in the larger organizations which, therefore, extends the services to well over half of those employed by Iowa manufacturing enterprises.

The above background data, when viewed in aggregate, delineate the nature and importance of Iowa manufacturing enterprises with 100 or more employees. As will be seen in the next two chapters, some of these dimensions have a definite relationship with the selection techniques and training activities in current use.

Chapter IV

EMPLOYEE SELECTION

There was a two-fold purpose for the selection section of the Employee Selection and Training Survey. First, to determine which techniques are most frequently used to recruit various classifications of employees, and second, to assess the productivity of these techniques. Admittedly this represents a limited aspect of the total selection process and in no way should be construed as attaching greater importance to the techniques of recruiting than to the selection process, i.e., interviewing, testing, and the like. The requirement for brevity of the questionnaire, however, did not permit a detailed examination of all aspects of selection.

In this section, employees were divided into three main categories. Managerial, supervisory, professional and technical employees formed the first category; clerical employees the second; and all hourly employees the third. For each of these categories, companies were requested to indicate how frequently they used each of a number of techniques (always, frequently, occasionally, or never) in hiring employees from outside the company. The resulting data were analyzed by assigning an arbitrary unit weight to each rating. That is to say, *always* was assigned a weight of three, *frequently* a weight of two, *occasionally* a weight of one, and *never* was assigned zero. The weights were then averaged for each technique. The resulting average weight then became the *frequency index*. For example, if for clerical selection, all firms indicated that employee referrals were *frequently* used, the frequency index would be 2.00. Had half the firms indicated *frequently* and half *occasionally*, the frequency index would be 1.50.

Similarly, for each category of employees, responding firms were asked to rate how productive (i.e., *very*, *moderate*, or *limited*) each of the techniques had been. Each of these ratings was then assigned an arbitrary unit weight (*very* of three, *moderate* of two, and *limited* of one) and a productivity index was computed. For example, had all firms using employee referrals for clerical selection rated the productivity as *moderate*, the productivity index would be 2.00.

Managerial, Supervisory, Professional, and Technical Selection

Frequency and productivity indexes for managerial, supervisory, professional, and technical selection techniques are presented in Table XV.

Table XV
Employee Selection Techniques
Managerial, Supervisory, Professional,
and Technical
N = 193

Techniques	*Frequency Index*	*Productivity Index*
Unsolicited applications	1.03	1.46
Advertising—newspapers	1.45	1.89
Advertising—journals	.64	1.58
Private employment agencies	1.24	1.78
Public employment agencies	1.32	1.61
Employee referrals	1.08	1.56
Technical institutes or colleges	1.21	1.77
Average	1.14	1.66

As indicated in Table XV, the most frequently used techniques for the selection of managerial, supervisory, professional, and technical employees are advertising–newspapers with a frequency index of 1.45; public employment agencies with a frequency index of 1.32; private employment agencies with a frequency index of 1.24; and technical institutes or colleges with a frequency index of 1.21. These same techniques also were assessed as most productive. The productivity indexes are: advertising–newspapers 1.89, public employment agencies 1.61, private employment agencies 1.78, and technical institutes or colleges 1.77.

Rated frequency of use of three techniques was directly affected by the total number of employees.[1] The techniques affected were advertising–journals, private employment agencies, and technical institutes or colleges. In each case the larger the firm the more frequently the technique was used for managerial, supervisory, professional, and technical selection. For example, the frequency index for advertising–journals was noted as .46 by small firms (100-250 employees) but as .93 by large firms (over 1,000 employees). Similarly the frequency index for private employment agencies was noted as 1.00 by the small firms but as 1.47 by large firms. Finally, for technical institutes or colleges the small firm frequency index was .89 as compared to 1.94 for the large firms.

Clerical Selection

The following table presents data on clerical selection techniques used by the 209 responding manufacturers.

For clerical selection those techniques used most frequently are public

[1] Contingency tables comparing the basic frequency of use data with total employment categories yielded the following Chi Squares: total employment versus advertising

Table XVI
Selection Techniques – Clerical Employees
N = 209

Techniques	*Frequency Index*	*Productivity Index*
Unsolicited applications	1.48	1.80
Advertising—newspapers	1.24	1.96
Advertising—journals	.13	1.47
Advertising—radio	.12	1.50
Private employment agencies	1.05	1.95
Public employment agencies	1.68	1.95
Employee referrals	1.19	1.67
Technical institutes or colleges	.71	1.54
High schools or trade schools	1.11	1.78
Average	.99	1.73

employment agencies with a frequency index of 1.68; unsolicited applications with a 1.48 frequency index; advertising–newspapers with a frequency index of 1.24; and employee referrals with a 1.19 frequency index. The techniques rated as most productive, however, were somewhat different. Although employee referrals was rated as the fourth most frequently used technique, it was assessed as the sixth most productive. Those techniques with the highest productivity indexes were advertising–newspapers, public employment agencies, private employment agencies, and unsolicited applications with productivity indexes of 1.96, 1.95, and 1.91 and 1.80, respectively.

The frequency of use of unsolicited applications is directly related to the total number of employees.[2] Whereas the average (all size firms combined) frequency index for unsolicited applications is 1.48, the frequency index for companies with 1,000 or more employees is 2.00. This is not to say that the larger firms rely on unsolicited applications; quite to the contrary, the larger firms use more techniques for clerical selection than the smaller firms.[3] By way of illustration, firms with 100-250 employees average 4.3 techniques compared to 6.4 techniques used by organizations with over 1,000 employees. Similarly these firms with large numbers of clerical employees use more techniques than do those who employ small numbers of clerical employees.[4] Also, larger firms make greater use of high schools or trade schools.[5]

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journals Chi Square = 32.35 ($P < .05$), total employment versus private employment agencies Chi Square = 36.15 ($P < .05$), technical institutes or colleges Chi Square = 42.29 ($P < .01$).

[2] The 5 X 6 contingency table of raw data yielded a Chi Square of 32.59 ($P < .05$).

[3] The 3 X 4 contingency table of raw data yielded a Chi Square of 37.78 ($P < .01$).

[4] The 3 X 4 contingency table of raw data yielded a Chi Square of 51.60 ($P < .01$).

[5] The 2 X 4 contingency table of raw data yielded a Chi Square of 8.75 ($P < .05$).

The size of city in which the company is located has a definite bearing on the assessed frequency of use and productivity of private employment agencies, and frequency of use but not productivity of public employment agencies for clerical selection. This information is illustrated in Table XVII.[6]

Table XVII
Frequency and Productivity Indexes
of Private and Public Employment
Agencies for Various-Sized Cities

	Private Employment Agencies		*Public Employment Agencies*	
Size of City	*Frequency Index*	*Productivity Index*	*Frequency Index*	*Productivity Index*
0-10,000	.29	1.33	1.00	1.92
10,001-50,000	.71	1.55	1.85	1.98
Over 50,000	1.59	2.11	1.80	1.69

This table shows that as the size of the city increases and the availability of both private and public employment agencies increases, the frequency of use of these agencies also increases. The productivity index of private employment agencies also increases as the size of the city increases. Perhaps this is because as the size of city increases, quality of service also increases.

Hourly Selection

Table XVIII enumerates the techniques used in the hiring of hourly workers.

Table XVIII
Selection Techniques – Hourly Employees
N = 211

Techniques	*Frequency Index*	*Productivity Index*
Unsolicited applications	2.03	2.13
Advertising—newspapers	1.26	1.97
Advertising—journals	.10	1.50
Advertising—radio	.26	1.58
Private employment agencies	.51	1.71
Public employment agencies	1.79	2.12
Employee referrals	1.42	1.84
Technical institutes or colleges	.40	1.37
High schools or trade schools	.80	1.56
Average	.95	1.75

[6] The contingency tables of raw data yielded the following Chi Square values: Size of city vs. private employment agencies frequency 56.97 ($P < .01$) df=6 and productivity 12.24 ($P < .01$) df=4. Size of city vs. public employment agencies frequency 31.80 ($P < .01$) df=6 and productivity .72 df=4.

Four techniques stand out well above all others as the most commonly used for the selection of hourly employees. They are unsolicited applications, public employment agencies, employee referrals, and advertising—newspapers. The respective frequency indexes are 2.03, 1.79, 1.42, and 1.26. These are in nearly the same order as those judged to be most productive. The respective productivity indexes are 2.13, 2.12, 1.84, and 1.97.

As was the case with clerical employees, the frequency of use of high schools or trade schools increases as the number of skilled employees increases.[7] In this instance, the frequency index for companies employing more than 100 skilled employees was 1.21 compared to an average frequency index of .80.

It is interesting to note that the manufacturers of certain main products make a greater use of technical institutes or colleges for the selection of hourly employees than do other manufacturers.[8] As contrasted with an average frequency index of .40, the frequency index for manufacturers of fabricated metal and wood industries and primary metals industries; electrical equipment, electronic components, and instruments; chemicals, ordnance, and allied products; and rubber and miscellaneous plastic goods are 1.54, 1.67, 1.50, and 2.14, respectively.

In contrast to clerical selection, very little use is made of private employment agencies for hiring hourly employees. Once again, however, as the size of the city increases the frequency of use of public employment agencies tends to increase.[9]

The frequency and productivity of use of public employment agencies by size of city is highlighted in Table XIX.

Table XIX
Frequency and Productivity Indexes of
Public Employment Agencies for
Various-Sized Cities

Size of City	*Frequency Index*	*Productivity Index*
0-10,000	1.06	2.08
10,001-50,000	2.00	2.38
Over 50,000	1.90	2.11

As was the case with clerical selection, the reason for the increase in frequency of public employment agencies as the size of the county increases in areas is undoubtedly associated with the increased availability. As noted in Table XIX, the productivity index, once again, does not increase significantly as the size of city increases.

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[7] The 3 X 3 contingency table of raw data yielded a Chi Square of 17.38 ($P < .01$).
[8] The 5 X 10 contingency table of raw data yielded a Chi Square of 64.07 ($P < .01$).
[9] The 3 X 4 contingency table of raw data yielded a Chi Square of 15.91 ($P < .01$).

Summary

In summary, recruitment techniques vary with the type of employee to be selected. The most common technique used for the selection of managerial, supervisory, professional, and technical employees is *advertising—newspapers.* For clerical employees the most popular technique is *public employment agencies.* In the case of hourly employees, *unsolicited applications* was rated as the most frequently used.

Furthermore, as the employment level of the individual to be selected increases, the greater is the likelihood that the firm will use, or be forced to use, some form of advertising, contact a private employment agency, or recruit through technical institutes or colleges. Conversely, the frequency of use of, or ability to rely on, unsolicited applications, public employment agencies, and employee referrals decreases as the employment level increases.

As indicated in Tables XV, XVI, and XVIII, there is an inverse relationship between the average frequency index of the various techniques for the three categories of employees: managerial, supervisory, professional and technical; clerical; and hourly, and the average productivity index for the three categories of employees. In other words, whereas the average frequency index increases from hourly to clerical and to managerial, supervisory, professional and technical employees, the average productivity index decreases as the employment level increases.

The presence of this inverse relationship is a reflection of the greater difficulty in recruiting managerial, supervisory, professional and technical employees as compared to clerical and hourly employees. On the average the various recruitment techniques are less productive for higher level positions; therefore, the average frequency of use is increased in an effort to select the needed employees.

Within each of the three categories of employees the frequency of use of any single technique appears to be dictated by the assessed productivity of that technique. This generalization is supported by statistical significances at the .05 level of confidence between frequency and productivity indexes within each category of employees.

Chapter V

EMPLOYEE TRAINING

Of the 215 firms that returned the Employee Selection and Training Survey, only 159, or 74 per cent, completed Section III—Employee Training. In other words, fifty-six companies left this section blank on their questionnaire. The instructions for filling out this part of the survey carried the following note: "If your company does not provide structured training activities of any kind for any level of employment, omit this entire section and answer the last two questions of Section IV." The latter questions pertained to current and projected manpower shortages by occupation, trade, and profession and also will be analyzed in this chapter.

Given these instructions, and since the overwhelming majority of manufacturers omitting this section were between 100 and 250 employees in size, it is reasonably safe to assume that most did not provide any structured training activities for their employees; if they did, they were not offered on any systematic or continuous basis; and in all probability few selection and training records were kept or retained.

Training Programs

The information obtained from the 159 organizations answering the Employee Training section of the questionnaire is depicted in Tables XX and XXI.

Table XX
Non - Supervisory Training
N = 159

	New Employee Orientation		*Apprenticeship*		*Clerical*		*Technical Programs*	
Location	*No.*	*Per Cent*	*No.*	*Per Cent*	*No.*	*Per Cent*	*No.*	*Per Cent*
In-plant	131	82.4	55	34.6	86	54.1	33	20.7
Out-plant	1	0.6	—	—	2	1.3	9	5.7
Both	4	2.5	20	12.6	8	5.0	35	22.0
None Used	23	14.5	84	52.8	63	39.6	82	51.6

As can be seen from this table, 85.5 per cent of the firms offer some form of new employee orientation program; 47.2 per cent have some type of apprenticeship preparation; 60.4 per cent offer some kind of clerical education; and 48.3 per cent provide technical training. The overwhelming ma-

jority of these training programs are offered on an in-plant basis. However, 12.6 per cent of the companies engaging in apprenticeship training use both in-plant and out-plant facilities, and 22 per cent of those engaging in technical training use both kinds of facilities. Fourteen and one-half per cent of the reporting companies allegedly have no new employee orientation program, 52.8 per cent have no apprenticeship activity, 39.8 per cent no clerical training, and 51.6 per cent no technical education.

Table XXI provides information on the kinds of supervisory training programs offered by the 159 reporting establishments.

Table XXI
Supervisory Training Programs
N = 159

	Pre-Supervisory		*Supervisory*		*Management Devel.*	
Location	*Number*	*Per Cent*	*Number*	*Per Cent*	*Number*	*Per Cent*
In-plant	52	32.7	52	32.7	31	19.5
Out-plant	3	1.9	8	5.0	11	6.9
Both	25	15.7	43	27.0	43	27.0
None Used	79	49.7	58	35.3	74	46.6

The table indicates that 51.3 per cent of the companies offer some kind of pre-supervisory training, 64.8 per cent provide some form of supervisory training, and 53.5 per cent furnish some type of management development activity. These kinds of training programs are more likely to be held off company premises than are the non-supervisory training programs. It is interesting to note, however, that firms are more prone to offer supervisory and management development programs than pre-supervisory programs, and where pre-supervisory trainings are offered, they are more apt to be on an in-plant than out-of-plant basis.

Of the seven questionnaire categories comprising supervisory and non-supervisory training programs (new employee orientation, apprenticeship, clerical, etc.), only 15.9 per cent of the 159 responding companies offered all seven, 19.2 per cent offered six, 25.0 per cent had four or five, 29.2 per cent provided two or three, and 10.6 per cent gave only one.

Training Techniques

In the implementation of these non-supervisory and supervisory training programs, a variety of pedagogical techniques are being employed. Table XXII enumerates these data.

The major employee training techniques in the order of their use are: on-the-job training, understudy or "assistant to" positions, job rotation, courses and sessions, and coaching and counseling. Little use is made of junior boards (multiple management, advisory councils, etc.), and rela-

Table XXII
Employee Training Techniques
N = 153

	Users		Non-users	
Techniques	*Number*	*Per Cent*	*Number*	*Per Cent*
On-the-job Training	148	96.7	5	3.3
Job Rotation	91	59.5	62	40.5
Understudy or "Assistant to" positions	94	61.4	59	38.6
Junior Boards	7	4.6	146	95.4
Coaching and Counseling	75	49.0	78	51.0
Courses and Sessions	87	56.9	66	43.1
Special Assignments	55	35.9	98	64.1
Other	16	10.5	137	89.5

tively little use is made of special assignments in the training of employees.

Of these seven categories of training techniques, only 3.3 per cent of the reporting businesses use all seven, 28.1 per cent employ five or six, 46.4 per cent utilize three or four, 16.3 per cent apply two, and 5.9 per cent use only one.

Out-of-Company Training

Data were also collected on the types of agencies or programs used for out-of-company training, i.e., developmental activities provided from outside the firm. Table XXIII details this information for the 130 enterprises that indicated they made use of this type of training tool.

Table XXIII
Out-of-Company Training
N = 130

	Users		Non-users	
Agency	*Number*	*Per Cent*	*Number*	*Per Cent*
High School	44	33.8	86	66.2
Trade School	38	29.2	92	70.8
Technical Institute	40	30.8	90	69.2
College or University	77	59.2	53	40.8
Correspondence Courses	92	70.8	38	29.2
Programs Conducted by Other Companies	30	23.1	100	76.9
Trade Associations	42	32.3	88	67.7
American Management Association	33	25.4	97	74.6
Other	28	21.5	102	78.5

The major agencies used by these organizations, in the order of their employment, are: correspondence courses, colleges or universities, high schools, trade associations, technical institutes, and trade schools. Lesser use was made of the American Management Association and programs conducted by other companies.

Of the eight vehicles used for out-of-company training, only 3.1 per cent of the firms utilized all eight, another 2.3 per cent used seven, 13.8 per cent used five or six, 43.8 per cent used three or four, 29 per cent used two, and 8.5 per cent used only one.

Company Promotion of Training

The manner in which manufacturing firms promote participation in employee training programs, whether on an in-plant or out-of-company basis, is of some importance. Table XXIV provides a compendium of the data collected in this area.

Table XXIV
Promotion of Participation in Employee Training Programs
N = 146

	Users		*Non-users*	
Company Promotion Methods	*Number*	*Per Cent*	*Number*	*Per Cent*
Publicize Training Activities, i.e., bulletin boards, newspapers, etc.	71	48.6	75	51.4
Tuition Refund Program, i.e., reimburse all or part of tuition, books, etc.	114	78.1	32	21.9
Pay Employees for Time Spent in Training	64	43.8	82	56.2
Enter Additional Qualifications in Personnel Record	93	63.7	53	36.3
Periodic Employee Interviews to Evaluate Personal Development	55	37.7	91	62.3
Take Official Notice of Participation for Promotion Purposes	81	55.5	65	44.5
Policy of Promotion (or pay raises) for Successful Completion of Training	19	13.0	127	87.0
Other	5	3.4	141	96.6
No Special Steps	6	4.1	140	95.9

Tuition refund programs are the most popular form of promoting employee participation in training programs. Over 78 per cent of the 146 firms reporting use this technique. Next in importance (63.7 per cent) is the entering of additional qualifications acquired by employees as a result of training in their personnel records. Over 50 cent of the companies take official notice of participation in training activities in considering employees for promotion. Between 40 and 50 per cent of the organizations publicize training activities on plant bulletin boards and in company newspapers and pay employees for time spent in training programs. Of lesser importance is interviewing employees periodically to evaluate their personal development or having a definite policy for promotions or pay raises for employees completing certain training programs.

Of the seven categories listed in Table XXIV–Promotion of Participation

in Employee Training Programs, only 2.7 per cent of the reporting firms used all seven methods, 22.6 per cent used five or six, 46.6 per cent used three or four, and 28.1 per cent used one or two. Only 6 per cent of the companies indicated they had no special steps to encourage employee participation in training activities.

Training Activities

The number of training programs by occupational level offers information of some magnitude to those interested in the types and variety of activities offered. These data are depicted in bivariate Table XXV.

Table XXV
Number of Training Programs Related to Occupation Classification
and
Number and Per Cent of Firms[1]

Occupation Classification	*Number of Firms Answering*	*Number and Per Cent of Training Programs*					
		1	*2*	*3*	*4*	*5*	*6*
Managerial	72	33 (45.8)	13 (18.0)	11 (15.3)	7 (9.7)	3 (4.2)	1[2] (1.4)
Supervisory	68	31 (45.6)	22 (32.4)	7 (10.2)	4 (5.9)	4 (5.9)	—
Professional and Technical	57	24 (42.1)	17 (29.8)	5 (8.8)	8 (14.0)	2 (3.5)	—[3]
Clerical	25	17 (68.2)	7 (28.0)	1 (4.0)	—	—	—
Skilled	76	48 (63.2)	13 (17.1)	11 (14.5)	2 (2.6)	—	2 (2.6)
Semi-skilled	36	24 (66.6)	8 (22.2)	2 (5.6)	1 (2.8)	1 (2.8)	—
Unskilled	30	24 (80.0)	4 (13.4)	1 (3.3)	—	1 (3.3)	—

[1] Number of firms are integer numbers, and per cent of firms are numbers in parentheses.

[2] Three firms (4.2 per cent) have eleven programs and one firm (1.4 per cent) has twelve programs.

[3] One firm (1.8 per cent) has seven programs.

Of the seventy-two firms offering management training, 45.8 per cent provide only one program, 33.3 per cent offer two or three programs, 15.3 per cent make available four to six, and 5.6 per cent offer eleven or twelve. Sixty-eight manufacturers provide supervisory training. Of this number, 45.6 per cent offer only one program, 32.4 per cent furnish two programs, and 22.0 per cent present three to five. Of the fifty-seven companies giving p fessional and technical programs, 42.1 per cent offer only one program,

29.8 per cent provide two, 26.3 per cent make available three to five, and one firm has seven programs.

In the non-supervisory and non-professional occupations the survey found twenty-five firms offering clerical programs, seventy-six providing programs for skilled workers, thirty-six furnishing programs for semi-skilled employees, and thirty offering them to the unskilled. Sixty-eight per cent of the companies offering clerical programs have only one. The remaining 32 per cent provide two or three programs.

Over 63 per cent of the organizations presenting programs for skilled employees have only one, 21.6 per cent have two or three programs, two firms make available four programs, and an additional two firms provide six. The semi-skilled occupational classification presents a similar picture. Over 66 per cent of the establishments have only one program, 22.2 per cent provide two programs, two companies have three, and one firm offers four and another five programs respectively. Finally, twenty-four businesses provide one program for unskilled workers, two manufacturers offer two programs, one firm makes available three, and another firm has five.

In other words, in the order of their frequency, seventy-six companies offer training programs for skilled workers, seventy-two firms provide management training, sixty-eight supervisory programs, fifty-seven proffer professional and technical programs, thirty-six give instruction for the semi-skilled, thirty for the unskilled, and twenty-five for clerical employees. The greatest number of training programs are given in the management area and the least number in clerical occupations.

Information also was obtained on the scheduled hours of training per employee. Many manufacturers were sponsoring anywhere from one to seven training programs that had no definite termination period. The vast majority of programs, however, were offered for fixed periods of time and covered a set number of training hours per employee. Thirty-five businesses offered courses lasting from one to ten hours in duration; thirty-three organizations made available courses lasting from eleven to twenty-five hours; twenty-five firms presenting programs calling for twenty-six to fifty hours of instruction; thirty-four firms had classes lasting from fifty-one to 800 hours in length; twenty-five corporations offered apprentice programs lasting anywhere from over 800 to over 8,000 hours in duration.

The scheduled number of hours of training per employee per week ranged considerably and depended on the type of training program as well as occupational level involved. This information is detailed in bivariate Table XXVI.

As can be seen from this table, the number of employees in training also ranged considerably. Sixty-six manufacturers had 1-5 employees in training programs; forty firms had 6-10 employees in training programs; fifty-eight

Table XXVI
Number of Training Programs Related to Number of Employees in Training and Number and Per Cent of Firms[4]

Number of Employees in Training	*Number of Firms Answering*	*Number and Per Cent of Training Programs*					
		1	*2*	*3*	*4*	*5*	*6*
1-5	66	27 (40.9)	20 (30.4)	8 (12.2)	7 (10.6)	1 (1.5)	2 (3.0)[5]
6-10	40	26 (65.0)	13 (32.5)	1 (12.5)	—	—	—
11-25	58	34 (58.6)	14 (24.2)	6 (10.4)	2 (3.4)	1 (1.7)	1 (1.7)
26-50	29	21 (72.5)	1 (13.4)	6 (20.7)	1 (3.4)	—	—
51-100	18	16 (88.8)	2 (11.2)	—	—	—	—
101-200	9	5 (55.6)	3 (33.3)	1 (11.1)	—	—	—
201-400	7	5 (71.4)	—	—	1 (14.3)	—	—[6]
401-600	3	3 (100.0)	—	—	—	—	—
Over 600	3	2 (66.7)	—	—	—	—	1 (33.3)

[4] Number of firms are integer numbers, and per cent of firms are numbers in parentheses.

[5] One firm (1.5 per cent) has seven training programs.

[6] One firm (14.3 per cent) has seven training programs.

companies had 11-25; twenty-nine businesses had 26-50; twenty-seven organizations had 51-200; ten corporations had 201-600; and three had over 600 employees enrolled and actively participating in training programs.

Need Analysis and Evaluation

The major techniques by which the need for these training activities were derived are listed in Table XXVII.

Here we see most companies placing the greatest reliance on the personal observations and judgment of their managerial personnel. Much weight is given to comparisons of job requirements with employee training, experience, and background information as well as current and anticipated changes in job requirements. Relatively little importance (6 per cent or less) is attached to such factors as employee requests for training, performance reviews or merit ratings, and committee evaluations. Though difficult to explain, 11.3 per cent of the firms reporting allegedly do not

Table XXVII
Need Analysis of Training Activities
N = 133

Method	*Number*	*Per Cent*
Employee requests training	8	6.0
Managerial observation and judgment	48	36.1
Committee evaluation	7	5.3
Tests and surveys	11	8.3
Job requirements change	25	18.8
Employer performance review*	8	6.0
Comparison of job with employee background	31	23.3
None used	15	11.3

*Specific appraisal system not specified

undertake a need analysis prior to the development and initiation of training programs.

The major methods by which organizations evaluate the results of their training activities are found in Table XXVIII.

Table XXVIII
Evaluation of Training Activities
N = 123

Method	*Number*	*Per Cent*
Interviewing and Counseling	21	17.1
Observation	41	33.3
Performance Records	54	43.9
Testing and Grading	23	18.7
Questionnaires and Surveys	8	6.5
Employee Reports	2	1.6
None Used	9	7.3

Over 40 per cent of the manufacturers reporting rely on the use of performance records or other results-oriented data to evaluate the effectiveness of training activities. Over 30 per cent of the companies place importance on the observations and reviews of foremen, supervisors, and other members of management. Approximately equal weight is given to interviewing and counseling and testing and grading. Relatively little attention is attached to use of questionnaires, surveys, and employee reports. Over 7 per cent of the organizations say they make no attempt to evaluate their training activities.

Tests of Statistical Significance

Over 100 items in Section III—Employee Training were checked for correlation coefficients. Using the Goodman-Kruskel gamma, the following correlations were found to be statistically significant at the .01 level:

As the number of managers within a company increases, the availability of pre-supervisory training programs increases.
As the number of managers within a company increases, the number of training activities offered outside the firm increases.
As the number of managers within a company increases, the number of employees currently in training increases.
As the number of professional and technical personnel within a company increases, the availability of pre-supervisory training programs increases.
As the number of professional and technical personnel within a company increases, the number of in-plant training activities increases.
As the number of professional and technical personnel within a company increases, the number of employees in training increases.
As the number of employees within a company increases, the number of training courses and sessions increases.
As the number of employees within a company increases, the number of special steps taken to encourage employee participation in training activities increases.
The use of managerial job analysis correlates with the use of special assignments as a training technique.
The use of supervisory job analysis correlates with the availability of supervisory training programs.
The use of supervisory performance appraisals (merit reviews) correlates with the use of "assistant to" or understudy positions as a training technique.
The use of semi-skilled job analysis correlates with the use of courses and sessions as a training technique.

No other correlations were found to be statistically significant at the .01 level. Chapter VI is a postscript to this monograph.

Chapter VI

POSTSCRIPT

This monograph has entailed little in the way of analysis. While the authors certainly have aspirations to be able to interpret a body of information or explain a particular set of results, this study was primarily confined to describing what has taken place in the field of selection and training. Specifically, the survey was designed to collect company background data; information on employee selection techniques and the frequency and effectiveness of their use; information on employee training activities, types of programs, and methods used to encourage employee participation; and data on methods used in determining training needs, evaluating the effectiveness of training programs, and areas where manpower shortages currently exist and are predicted to exist.

The explanations of this information that are found throughout the monograph are of a general nature and were developed with due caution. No attempt was made to praise or criticize the use or lack of specific selection or training practices, or to judge them against either qualitative or quantitative criteria. As was stated in Chapter II—Methodology, this study was concerned with describing and comparing employee selection and training activities, not evaluating them. The problem has been one of investigation, not prescription. It would be remiss, however, to close without a few observations on the growing significance of selection and training in the world of work.

Effective employee selection and training engenders change, and striking changes are occurring in the numerous and varied relationships that exist between business and industry and the rest of society. Regard for community welfare in business decisions, concern for public opinion, support of charitable and humane organizations, and contributions to the stabilization of world economic affairs are all cases in point.[1]

A few observations are in order to clarify the changing role of American business and industry. At the close of the nineteenth century a major social innovation of an institutional nature significantly reshaped the American scene. This was the establishment of a free public school system, accomplished, in principle at least, by the close of the first half of the nineteenth

[1] A. A. Berle, Jr., *The Twentieth Century Capitalist Revolution*, New York: Harcourt, Brace and Company, Inc., 1954, Chapter V.

century. This concept of universal education, supported by the people and free from the taint of charity and the dominance of selfish interests, has become a self-perpetuating revolution. Witness the current changes in elementary and secondary education, the growth of technical institutes and community colleges, the changing role of four-year colleges and universities, and the acceleration of federal aid to education.

The authors believe that in the selection and training activities of American business and industry, we are witnessing another major educational force of significant impact—one that is often overlooked. Just as free public schools have provided a bulwark for democracy, so industrial training is helping our country adapt to a new era of technological innovation, the ultimate consequences of which are difficult, if not impossible, to comprehend or predict. This represents more than merely an adjustment to mechanical devices and automation. It is a fusion of new technical knowledge and skills with new and evolving human relationships, foreseeing a world enhanced not only in creature comforts, but more importantly, in human and spiritual values.

APPENDICES

Appendix A

SURVEY FORMS

The University of Iowa
Center for Labor and Management
Iowa City, Iowa

MANAGEMENT DEVELOPMENT SURVEY OF IOWA INDUSTRY

Please answer every applicable question by placing an X in the space provided immediately preceding the answer.

Name of company ..... (1-3)*

Address ..... City .....

1 (4) The main function of this organization is:
1. .... Manufacturing
2. .... Service
3. .... Wholesale
4. .... Construction
5. .... Other (please specify)
.....

2 (5) What is the approximate age of your organization?
1. .... 0-10 years
2. .... 11-20 years
3. .... 21-30 years
4. .... 31-50 years
5. .... over 50 years

3 (6) Number of employees at this location:
1. 0-99
2. 100-199
3. 200-499
4. 500-999
5. .... *1000-1999*
6. .... 2000 and over

4 (7) Number of employees with supervisory and managerial responsibilities at this location:
1. 0-10
2. 11-24
3. .... ~~25-50~~
4. 51-100
5. 101-150
6. 151-200
7. .... 201 and over

5 (8) Number of professional and technical employees at this location:
1. 0-10
2. 11-24
3. 25-50
4. 51-100
5. 101-150
6. 151-200
7. .... 201 and over

6 (9) Within the past twelve (12) months the number of employees at this location has:
1. .... Increased
2. .... Decreased
3. .... Remained the same

*Numbers in parentheses used for IBM card punching.

7 (10) Within the past twelve (12) months the following number of supervisory and managerial personnel have been hired from outside this organization:

1. 0
2. 1-5
3. 6-10
4. 11-15
5. 16-20
6. ....21 and over

8 In hiring supervisory and managerial personnel from outside, the following sources are used:

1. (11) ....Unsolicited applications
2. (12) ....Advertising
3. (13) ....Private employment agencies
4. (14) ....Public employment agencies
5. (15) ....Employee referrals
6. (16) ....College recruitment
7. (17) ....Other (please specify)

.....

9 In hiring supervisory and managerial personnel from the outside, the following tools are used:

1. (18) ....Application blank
2. (19) ....Testing
3. (20) ....Interview
4. (21) ....Character reference check
5. (22) ....Employment reference check
6. (23) ....Criminal record check
7. (24) ....Physical examination
8. (25) ....Credit check
9. (26) ....Other (please specify)

.....

10 (27) Does your organization have a management development plan?

1. ....Yes
2. ....No

11 (28) If No. 10 was answered yes, how long has this development plan been in operation?

1. .... 0-5 years
2. .... 6-10 years
3. ....11-20 years
4. ....21 years and over

12 (29) Is your management development plan conducted entirely on an in-plant basis?

1. ....Yes
2. ....No

13 If No. 12 was answered no, please check the following institutions used in your development plan:

1. (30) ....American Management Association
2. (31) ....National Industrial Conference Board
3. (32) ....Universities and Colleges
4. (33) ....High Schools
5. (34) ....Consulting Firms
6. (35) ....Other (please specify)

.....

14 Place an X before each of the following techniques currently used in your development plan.

1. (36) . . . . On-the-job training
2. (37) . . . . Job rotation
3. (38) . . . . Understudy or "assistant to" positions
4. (39) . . . . Multiple management plans: junior boards of directors, etc.
5. (40) . . . . On-the-job coaching and counseling
6. (41) . . . . In-company training programs
7. (42) . . . . Outside company programs, i.e., Universities, AMA
8. (43) . . . . Tuition refund program
9. (44) . . . . Other (please specify) . . . . . .

. . . . . .

15 Please mark the following list of techniques in rank order from 1-9 according to its present value to your development program. Mark the item of most importance No. 1 and the item of least importance No. 9.

1. (45) . . . . On-the-job training
2. (46) . . . . Job rotation
3. (47) . . . . Understudy or "assistant to" positions
4. (48) . . . . Multiple management plans: junior boards of directors, etc.
5. (49) . . . . On-the-job coaching and counseling
6. (50) . . . . In-company training programs
7. (51) . . . . Outside company programs, i.e., Universities, AMA
8. (52) . . . . Tuition refund program
9. (53) . . . . Other (please specify) . . . . . .

. . . . . .

16 Place an X before each of the content areas listed below which are included as part of your development program.

1. (54) . . . . Principles of organization
2. (55) . . . . Principles of leadership
3. (56) . . . . Human relations
4. (57) . . . . Personnel management
5. (58) . . . . Community relations
6. (59) . . . . Motivation
7. (60) . . . . Communication
8. (61) . . . . Problem solving and decision making
9. (62) . . . . Other (please specify) . . . . . .

. . . . . .

17 Please mark the following list of content areas in rank order from 1-9 according to its present value to your development program. Mark the area of most importance No. 1 and the area of least importance No. 9.

1. (63) . . . . Principles of organization
2. (64) . . . . Principles of leadership
3. (65) . . . . Human relations
4. (66) . . . . Personnel management
5. (67) . . . . Community relations
6. (68) . . . . Motivation
7. (69) . . . . Communication
8. (70) . . . . Problem solving and decision making
9. (71) . . . . Other (please specify) . . . . . .

. . . . . .

18 (72) Does your organization engage in personnel research?
1. ....Yes
2. ....No
If yes, please specify
.....
.....
.....
.....

19 (73) Would your organization be interested in participating in applied personnel research projects with The University of Iowa?
1. ....Yes
2. ....No

20 (74) Does your organization have its development program in written form?
1. ....Yes
2. ....No
If yes, please attach a copy

21 (75) Is your performance appraisal program (i.e., merit ratings, merit review, etc.) in written form?
1. ....Yes
2. ....No
If yes, please attach a copy

22 (76) Would you like a copy of this study when completed?
1. ....Yes
2. ....No
If yes, please indicate name and position of person to receive the study
.....
.....

(77) For Coding Only
1. .....
2. .....
3. .....
4. .....

Please return completed questionnaire and any attachments to:
Center for Labor and Management
The University of Iowa
Iowa City, Iowa 52240

REPORT ON EMPLOYEE TRAINING

Form BAT-103

Budget Bureau No. 44-6020
Approval expires Dec. 31, 1961

U.S. DEPARTMENT OF LABOR
Bureau of Apprenticeship and Training
Washington 25, D. C.

Report
on
EMPLOYEE TRAINING

Your reply will be held in
STRICT CONFIDENCE

It is important that we obtain a reply from your establishment even if it has no training as defined for this survey. "Training" as defined here means any prearranged formal system of instruction sponsored or utilized by your establishment to better equip employees to perform job duties. It does not include the informal day-to-day casual type of instruction by foremen or other supervisors. The training may take place on or off the job, and it may be given by your firm, an employee organization, a vocational school, or some other agency. It may be relatively long-term, such as apprenticeship programs, or short-term, such as orientation for new employees or safety training. The training may be for all employees or for a specified group such as executives, journeymen, production workers, or sales, clerical, or secretarial personnel.

A. Information on training is requested for your establishment at the location shown above. What is the approximate number of employees at that location? _____

B. Did any of those employees receive training last month? Yes ☐ No ☐ If "yes," approximately how many? _____ (Do not count an employee more than once, even though he participated in more than one training program.)

C. If answer to Item B is "no," do you have any definite program or plan for training even though no one received training last month? Yes ☐ No ☐

IF ANSWER TO EITHER ITEM B OR C IS "YES," PLEASE SUPPLY THE INFORMATION REQUESTED BELOW AND ON THE REVERSE;

IF ANSWER TO BOTH ITEMS B AND C IS "NO," please print your name and title on the reverse; and —

WHETHER YOUR ESTABLISHMENT HAS TRAINING OR NOT PLEASE RETURN THIS FORM in the enclosed preaddressed envelope which requires no postage.

D. Check item(s) below which best describes the organization of training activities in this establishment.

1. ☐ Training department. (A distinct organizational unit headed by a training official assigned overall responsibility for employee training programs.)
2. ☐ No separate training department — other staff official assigned overall responsibility for training. Give title of this official. _____
3. ☐ No staff official assigned overall responsibility for training — training handled entirely by foreman or supervisor.
4. ☐ Other establishment of company is responsible for company-wide training programs.
5. ☐ Establishment participates with labor union(s) in sponsoring apprenticeship programs.
6. ☐ Establishment participates with labor union(s) in sponsoring training program other than apprenticeship.
7. ☐ Other (specify). _____

E. What educational institutions or other training facilities outside the establishment as well as facilities of this establishment are utilized for training employees? (Check all that apply.)

FACILITIES OUTSIDE THE ESTABLISHMENT

1. ☐ Public vocational school
2. ☐ Private vocational school
3. ☐ College or university
4. ☐ Technical institute
5. ☐ Correspondence course
6. ☐ Facilities provided by trade association
7. ☐ Facilities provided by union
8. ☐ Classes conducted by other establishment or firm
9. ☐ Facilities provided jointly by labor and management
10. ☐ Other outside facilities (Specify) _____

IN-PLANT FACILITIES

11. ☐ Regular work station
12. ☐ Vestibule training
13. ☐ Classroom in establishment
14. ☐ Other plant facilities (Specify) _____

F. What techniques does this establishment use to encourage employees to participate in educational and training activities? (Check all that apply.)

1. ☐ Publicizes educational and training opportunities through announcements posted on plant bulletin boards, in plant newspaper, films, and other media.
2. ☐ Reimburses employees for all or part of the cost of tuition, texts and supplies.
3. ☐ Pays employees for time spent in training program.
4. ☐ Enters additional qualifications acquired by employees in their personnel records.
5. ☐ Interviews employees periodically to evaluate their personal development.
6. ☐ Takes official notice of participation in educational and training activities in considering employees for promotion.
7. ☐ Has a definite policy for promotions or pay raises for employees completing certain training programs.
8. ☐ Other. (Specify) _____
9. ☐ No special techniques

G. Furnish information on the training programs provided employees of this establishment. List all programs including those in which no employees are currently training. (Use additional sheets if more space is needed.)

DO NOT USE	TYPES OF TRAINING PROGRAMS (GIVE BRIEF DESCRIPTION UNLESS NAME OF PROGRAM IS SELF EXPLANATORY) (1)	OCCUPATIONS OR OCCUPATIONAL GROUPS INCLUDED (2)	FACILITIES USED (USE NUMBERS OF ITEMS YOU CHECKED IN E AND F ABOVE) (3)	TECHNIQUES USED TO INTEREST EMPLOYEES (4)	SCHEDULED HOURS OF TRAINING PER EMPLOYEE* TOTAL (5)	SCHEDULED HOURS OF TRAINING PER EMPLOYEE* PER WEEK (6)	NUMBER OF EMPLOYEES** CURRENTLY IN TRAINING (7)	NUMBER OF EMPLOYEES** COMPLETED TRAINING DURING PAST 12 MONTHS (8)

* If training period has no definite termination, enter "xx" in column 5 and approximate number of hours per week per employee in column 6.

** Enter "0" in column 7 if no employees are in training and in column 8 if no one completed during the past 12 months. If training period has no definite termination, enter "xx" in column 8.

H. NAME AND TITLE OF OFFICIAL PREPARING THIS REPORT _____ DATE _____

Appendix B

SAMPLE OF LETTER USED IN QUESTIONNAIRE PRE-TEST

THE UNIVERSITY OF IOWA
IOWA CITY, IOWA 52240

December 9, 1965

College of Business Administration
Center for Labor and Management
Phillips Hall
Area 319: 353-4274

Dear ——— :

The Center for Labor and Management is undertaking an Employee Selection and Training Survey of Iowa manufacturing firms with 100 employees or more. Before printing the enclosed questionnaire for general distribution, we want to pre-test and check it for reliability and validity.

The Center is seeking your help. We would appreciate your assistance in two areas: first, by answering all items on the questionnaire, and second, by giving us your opinion as to the strengths and weaknesses of the questionnaire, i.e., point out the poor questions, ways to improve them, areas that we have missed, etc.

We realize that this is an imposition on your time and wish to thank you for your co-operation.

Cordially,

Don R. Sheriff
Director

DRS/lh

Enclosure

Appendix C

EMPLOYEE SELECTION AND TRAINING SURVEY

CONFIDENTIAL

EMPLOYEE SELECTION AND TRAINING SURVEY

General Instructions

On this and the following pages are a number of items dealing with employee selection and training activities. Please respond to each item as completely as possible. Since this is a survey of *all* manufacturing firms with 100 or more employees, the value of the project is dependent upon our receiving replies from each firm. We therefore ask that you complete and return the questionnaire even though your firm engages in few training activities.

Although we ask you to list the name of your firm and sign the questionnaire, your reply will be held in strict confidence. Neither you nor your firm will be identified in any report or publication.

SECTION I—BACKGROUND DATA

A. GENERAL

Name of company _____

Address _____ City _____

Organizational Structure (Check one)

Single plant company .....____
Parent unit of multi-plant company .....____
Branch or division of multi-plant company .....____
Subsidiary of multi-plant company .....____

Age of company or plant .....____

Main product(s) _____

_____

_____

B. EMPLOYMENT

	Approximate number of full-time employees	In past 5 years has this figure increased (+), decreased(—), or remained the same (0)?
Managerial (second level of supervision and above, i.e. middle and top)	____	____
Supervisory (lowest level of supervision)	____	____
Professional and technical	____	____
Clerical	____	____
Skilled	____	____
Semi-skilled	____	____
Unskilled	____	____
Other (please specify) _____	____	____
Total	____	____
Male	____	____
Female	____	____

C. PERSONNEL SERVICES

Which of the following personnel specialists are employed by your firm? (Check all that apply)

Full-time Personnel Director .....____
Full-time Training Director .....____
Part-time Personnel Director .....____
Part-time Training Director .....____
Full-time Wage and Salary Analyst .....____
Full-time Employment Manager .....____
Part-time Wage and Salary Analyst .....____
Part-time Employment Manager .....____

What is the total number of people in the personnel department?____
(Do not include medical personnel, guards, or janitors)

What is the title of the highest-ranking personnel official?_____

_____

Please indicate if you have a program of job analysis (job descriptions or job specifications) and/or performance appraisal (merit rating or merit review) for each of the following categories of employees. (Check all that apply)

	Job Analysis	Performance Appraisal
Managerial (second level of supervision and above)	____	____
Supervisory (lowest level of supervision)	____	____
Professional and technical	____	____
Clerical	____	____
Skilled	____	____
Semi-skilled	____	____
Other (please specify) _____	____	____

_____

SECTION II—EMPLOYEE SELECTION

A. MANAGERIAL, SUPERVISORY, PROFESSIONAL, AND TECHNICAL

In hiring managerial, supervisory, professional, and technical employees from outside the company, please indicate how frequently you use each of the following techniques in column (1) and how productive each has been in column (2).

	(1) *Frequency*	(2) *Productivity*
	Always (A) Frequently (F) Occasionally (O) Never (N)	Very (V) Moderate (M) Limited (L)
Unsolicited applications (walk-ins) ..	____	____
Advertising—newspapers	____	____
Advertising—journals	____	____
Private employment agencies	____	____
Public employment agencies	____	____
Employee referrals	____	____
Technical institutes or colleges	____	____

CENTER FOR LABOR AND MANAGEMENT
COLLEGE OF BUSINESS ADMINISTRATION
THE UNIVERSITY OF IOWA • IOWA CITY, IOWA

B. CLERICAL

In hiring clerical employees from outside the company, please indicate how frequently you use each of the following techniques in column (1) and how productive each has been in column (2).

	(1) *Frequency*	(2) *Productivity*
	Always (A)	Very (V)
	Frequently (F)	Moderate (M)
	Occasionally (O)	Limited (L)
	Never (N)	
Unsolicited applications (walk-ins)	____	____
Advertising—newspapers	____	____
Advertising—journals	____	____
Advertising—radio	____	____
Private employment agencies	____	____
Public employment agencies	____	____
Employee referrals	____	____
Technical institutes or colleges	____	____
High schools or trade schools	____	____

C. HOURLY

In hiring hourly employees from outside the company, please indicate how frequently you use each of the following techniques in column (1) and how productive each has been in column (2).

	(1) *Frequency*	(2) *Productivity*
	Always (A)	Very (V)
	Frequently (F)	Moderate (M)
	Occasionally (O)	Limited (L)
	Never (N)	
Unsolicited applications (walk-ins)	____	____
Advertising—newspapers	____	____
Advertising—journals	____	____
Advertising—radio	____	____
Private employment agencies	____	____
Public employment agencies	____	____
Employee referrals	____	____
Technical institutes or colleges	____	____
High schools or trade schools	____	____

SECTION III—EMPLOYEE TRAINING

NOTE: If your company does not provide structured training activities of any kind for any level of employment, omit this entire section and answer the last two questions of Section IV.

A. TRAINING PROGRAMS

Which of the following types and kinds of training programs are available to employees? If training is available both on an in-plant and outside-the-plant basis, please check both columns (1) and (2). For each item checked, please indicate who is responsible for planning and organizing the training in column (3), i.e. individual supervisors or managers, personnel department, etc.

	(1) In-plant basis	(2) Outside-of-plant basis	(3) People or department responsible
New employee orientation	____	____	_____
Apprenticeship	____	____	_____
Clerical	____	____	_____
Technical	____	____	_____
Pre-supervisory	____	____	_____
Supervisory	____	____	_____
Management development	____	____	_____
Other (please specify) _____	____	____	_____

B. TRAINING TECHNIQUES

In the implementation of in-plant training programs, which of the following techniques are used? (Check all that apply)

____On-the-job training
____Job rotation
____Understudy or "assistant to" positions
____Junior boards, i.e. multiple management, advisory council, etc.
____Coaching and counseling
____Courses and sessions
____Special assignments
____Other (please specify) _____

C. OUT-OF-COMPANY TRAINING

Which of the following types of agencies or programs are used for outside-the-plant training? (Check all that apply)

____High school
____Trade school
____Technical institute
____College or university
____Correspondence courses
____Programs conducted by other companies
____Trade associations
____American Management Association
____Other (please specify) _____

D. COMPANY PROMOTION

What steps does your company take to encourage employees to participate in training activities? (Check all that apply)

____Publicize training activities on plant bulletin boards, company newspaper, and other media
____Tuition refund program for all or part of the cost of tuition, texts, and supplies
____Pay employees for time spent in training program
____Enter additional qualifications acquired by employees in their personnel records
____Interview employees periodically to evaluate their personal development
____Take official notice of participation in training activities in considering employees for promotion
____Have a definite policy for promotions or pay raises for employees completing certain training programs
____Other (please specify) _____
____No special steps

E. TRAINING ACTIVITIES

Please furnish information on the training programs provided employees. List all programs including those in which no employees are currently in training. This information relates to Section IIIA, Training Programs. Use the last page if more space is needed.

Types of Training Programs (Give brief description unless name of program is self-explanatory.) (1)	Facility Used (check one)		Occupations or occupational groups included, i.e. management, professional, clerical, etc. (4)	Scheduled hours of training per employee*		Number of employees currently in training or who have completed training during past 12 months (7)
	In-plant (2)	Outside the company (3)		Total (5)	Per week (6)	

*Enter "xx" in column 5 if training period has no definite termination.

SECTION IV—NEED ANALYSIS AND EVALUATION

How are employee training needs determined? (What methods or techniques are used to determine what training is required?) _____

_____

_____

_____

_____

How are employee training activities evaluated? (What methods or techniques are used to appraise the value of completed training?)

_____

_____

_____

_____

Are there any employment areas where manpower shortages currently exist in the company? Yes_____ No_____ If yes, in which occupations, trades, professions, etc.? _____

_____

_____

Are there any employment areas where manpower shortages are predicted to exist in the company in the next five to ten years? Yes_____ No_____ If yes, in which occupations, trades, professions, etc.?

_____

_____

_____

_____ Date _____

Name and title of official preparing report

Please return completed questionnaire to:

Center for Labor and Management
College of Business Administration
The University of Iowa
Phillips Hall
Iowa City, Iowa 52240

Appendix D

SAMPLE OF LETTERS USED IN SURVEY

THE UNIVERSITY OF IOWA
IOWA CITY, IOWA 52240

College of Business Administration
Center for Labor and Management
Phillips Hall
Area 319: 353-4274

Dear ——— :

The University of Iowa's Center for Labor and Management is undertaking an Employee Selection and Training Survey of all Iowa manufacturing firms with 100 or more employees. Through this survey we hope to ascertain in detail the types of selection and training activities engaged in by Iowa manufacturers. The final analysis will provide invaluable information to managers, personnel specialists, counselors, and educators throughout the state in evaluating current manpower development efforts. We feel that this research is particularly timely since the recent growth of federal activity in training tends to overshadow the activities and contribution of the private sector.

The Center for Labor and Management seeks your cooperation. We would appreciate your completing and returning the attached questionnaire in the envelope provided. All replies will be held in strict confidence. Only aggregate data will be released and published.

This research represents a cooperative effort between Iowa business and industry and The University of Iowa. Fifteen Iowa companies of varying size participated in the development of this confidential questionnaire. The result is what we consider to be a rather complete survey tool. We realize that the answering of the questionnaire represents an imposition on your time; therefore, we sincerely thank you for your assistance in this important applied research project.

Very truly yours,

Don R. Sheriff
Director

DRS/lh

Enclosure

THE UNIVERSITY OF IOWA
IOWA CITY, IOWA 52240

College of Business Administration
Center for Labor and Management
Phillips Hall
Area 319: 353-4274

Dear ——— :

Three weeks ago you received a copy of The University of Iowa's Employee Selection and Training Survey. Thus far we have had an excellent response to the questionnaire. We have not, however, received your reply and are therefore sending this letter as a reminder to you.

Since this applied research project is based on a quantitative case approach rather than a random sample, we need and solicit your completed questionnaire. Will you be of assistance to us?

As we mentioned in our first letter, all replies will be held in strict confidence. Even if your company undertakes little or no employee training, please complete the appropriate sections of the questionnaire and return it to us.

In the event that the original form has been mislaid, we are enclosing an additional form and envelope. If you desire additional information or clarification, please write or call Mr. Duane Thompson, Management Program Director, or myself.

Thank you for this consideration.

Very truly yours,

Don R. Sheriff
Director

DRS/lh

Attachment

THE UNIVERSITY OF IOWA
IOWA CITY, IOWA 52240

College of Business Administration
Center for Labor and Management
Phillips Hall
Area 319: 353-4274

Dear ——— :

On two occasions during the past five weeks we have requested your cooperation in the completion of The University of Iowa's Employee Selection and Training Survey. Again we ask for your assistance in this applied research project. If you have simply been putting it off — and we realize it takes time from your busy day — we ask you to take the time to complete the questionnaire. Since we are using a quantitative case approach, the information from each company adds significantly to the practical value of the survey.

If for any reason you feel you cannot complete the entire questionnaire, please complete Section I and any other sections that you can and return the form to us. All replies are held in strict confidence and only aggregate data for all companies will be analyzed.

We realize that this survey represents an imposition on your time. However, we believe strongly in the practical value of the survey to business and industry and trust that you will help us achieve the best possible representation of Iowa manufacturers.

Cordially,

Don R. Sheriff
Director

DRS/lh

Appendix E
GEOGRAPHIC DIVISION OF STATE

Geographic Division of State

PUBLICATIONS
of the
Center for Labor and Management

MONOGRAPH SERIES

1. *Iowa Employment Patterns and Projections, 1940-1970,* Mario Frank Bognanno, 1966. $1.00
2. *The Art of Time Study: An Exercise of Personal Judgment,* Bertram Gottlieb, 1966. 50¢
3. *Job Enlargement . . . in the Shop . . . in the Management Function,* Paul A. Stewart. $1.00
4. *Selection and Training: A Survey of Iowa Manufacturing Firms,* Don R. Sheriff, Duane E. Thompson, Robert W. Parks. $1.00

RESEARCH SERIES

*1. *The Scope of Collective Bargaining,* Walter L. Daykin, 1951.
*2. *Labor Arbitration,* Clarence M. Updegraff, 1951.
3. *Iowa Labor Laws,* Thomas W. Stewart, Revised 1959. 50¢
*4. *Financial Regulations of Unions Under the Taft-Hartley Act,* Walter L. Daykin, 1952.
*5. *Effects of the Taft-Hartley Act on the Employer's Right to Discharge,* Walter L. Daykin, 1952.
6. *Arbitrator's Determination of Management's Right to Manage,* Walter L. Daykin, 1954. 25¢
*7. *Estimating the Labor Supply in a Rural Community,* Kenneth E. Larsen and Everett L. Refior, 1954.
8. *Arbitration of Job Evaluation Disputes,* Clifford M. Baumback, 1954. 25¢
*9. *Free Speech Rights of Management,* Walter L. Daykin, 1955.
10. *Trends in NLRB Decisions During 1953-54,* Chester A. Morgan, 1955. 25¢
11. *Merit and Seniority as Factors in Promotion and In-Grade Progression,* Clifford M. Baumback, 1956. 25¢
12. *Identifying Potential Supervisors,* Howard M. Vollmer and Jack A. Kenney, 1956. 25¢
13. *Supplemental Unemployment Benefits,* Edward D. Wickersham, 1956. 25¢
14. *Incentive Wage Problems in Collective Bargaining and in Arbitration,* Clifford M. Baumback, 1956. 25¢

15. *Management's Right to Discharge Employees for Conduct Off the Job,* Walter L. Daykin, 1956. 25¢
*16. *Alcoholism and Iowa Business and Industry,* Harold A. Mulford, Jr., and Carl E. Waisanen, 1957.
17. *Limits of State and Federal Jurisdiction in Respect to Labor Disputes,* Clarence M. Updegraff, 1955. 25¢
18. *Disciplinary Actions and the Arbitrators,* Walter L. Daykin, 1957. 25¢
*19. *Trends in NLRB Decisions, 1955-56,* Chester A. Morgan, 1957.
*20. *Voluntary Quit Disqualification in Unemployment Insurance—The Iowa Experience,* Fred Slavick, 1958.
21. *The Distinction Between Quit and Discharge,* Walter L. Daykin, 1959. 50¢
22. *The Iowa Law of Workmen's Compensation,* Willard L. Boyd and others, 1960. $1.00
23. *An Iowa Commuting Pattern and Labor Market Areas in General,* C. A. Peterson, 1961. 50¢
24. *Iowa Employment Trends,* C. A. Peterson & Norbert K. Norpel, 1962. $1.00
25. *Job Enlargement: A Case Study,* J. F. Biggane and Paul A. Stewart, 1963. $1.00
26. *Occupational Characteristics of Iowa Labor Force,* David E. Cooper and Craig Lloyd, 1963. $1.50

REPRINT SERIES

*1. *Legalized Concerted Activity Under the Taft-Hartley Act,* Walter L. Daykin. Reprinted from Labor Law Journal, 1952.
2. *Union Security—Federal or State Sphere,* Chester A. Morgan. Reprinted from Labor Law Journal, 1953. Free
3. *Furnishing Wage Data for Bargaining,* Walter L. Daykin. Reprinted from Labor Law Journal, 1953. Free
4. *Effect of NLRA and Taft-Hartley on the Employer's Right to Hire,* Walter L. Daykin. Reprinted from Labor Law Journal, 1953. Free
5. *Preparation for Arbitration and Hearing Procedure,* Clarence M. Updegraff. Reprinted from Labor Arbitration, 1954. Free
*6. *Unions and State Antitrust Laws,* Chester A. Morgan. Reprinted from Labor Law Journal, 1956.
*7. *Iowa Labor Laws,* Thomas W. Stewart. Reprinted from Bureau of Labor and Management Research Series No. 3, 1957.
*8. *Arbitration of Job Evaluation Disputes,* Clifford M. Baumback. Reprinted from Bureau of Labor and Management Research Series No. 8, 1957.
*9. *Legality of Lockouts Under the Taft-Hartley Act,* Walter L. Daykin. Reprinted from Labor Law Journal, 1958.

•10. *Union Fees and Dues,* Walter L. Daykin. Reprinted from Labor Law Journal, 1958.

•11. *Adequacy of Medical Benefits in Collectively Bargained Health Insurance Plans—Recent and Future Research,* Fred Slavick. Reprinted from Proceedings of the Tenth Annual Meeting, Industrial Relations Research Association, September 5-7, 1957.

•12 *A Primer on Engineering Unionism,* Jack F. Culley. Reprinted from Iowa Business Digest, Fall Quarterly, 1958.

•13. *Legal Issues in Labor Relations,* Walter L. Daykin. A collection of articles reprinted from various business and professional journals, 1961.

•14. *Union Security, Hiring Halls, Right-to-Work Laws and the Supreme Court,* Irving Kovarsky. Reprinted from Labor Law Journal, 1964.

15. *University Sponsored Executive Development Programs: Three Controllable Variables,* Don R. Sheriff and Jude P. West. Reprinted from the Personnel Administrator, November-December, 1964. Free

16. *Apprentice Training Programs and Racial Discrimination,* Irving Kovarsky. Reprinted from the Iowa Law Review, Spring, 1965. Free

INFORMATION SERIES

•1. *Employment Problems of Older Workers,* Jack F. Culley and Fred Slavick, 1959.

2. *Prevention and Control of Industrial Absenteeism,* Jack F. Culley, 1959. 50¢

3. *Business Games: A Simulation Technique,* John Whedon Acer, 1960. $1.00

4. *Building the Local Union Education Program,* John J. Flagler, 1961. 50¢

5. *Guidelines for Arbitration Witnesses,* Dr. Clarence M. Updegraff, 1963. Free

6. *Guidelines for Employee Training,* Don R. Sheriff, 1963. $1.00

7. *Protective Labor Legislation—A Primer for Iowans,* Jack F. Culley, 1965. 50¢

CONFERENCE SERIES

•1. *Effective Safety Programs,* 1952.

•2. *The Changing Pattern of Labor-Management Relations and the Impact of Labor-Management Relations on the Town and City,* 1953.

•3. *Proceedings of the Session on Arbitration at the State University of Iowa,* 1953.

•4. *Development of the Individual in Business and Industry,* 1956.

5. *Contemporary Values and the Responsibility of the College,* Editor, Jack F. Culley, 1962. $1.00

6. *The Problem Drinker in Industry,* Editor, Don R. Sheriff, 1962. $1.00
*7. *Industrial Survival,* Editors, Don R. Sheriff and Craig Lloyd, 1963.
8. *Employment Problems of Working Women,* Editors, John J. Flagler, Mario F. Bognanno, and Craig Lloyd, 1963. $1.00
9. *The Social and Technological Revolution of the Sixties,* Editors, Don R. Sheriff, David Zaehringer, and Craig Lloyd, 1965. $1.00
10. *The New Perspectives in Collective Bargaining,* Editors, Don R. Sheriff, Sandra Hoffman, and Kathleen McCaffrey, 1965. $1.00

OTHER PUBLICATIONS

Educational Films for Labor and Management, 1965. Free

*OUT OF PRINT (All publications out of print are available to Universities and to Iowa residents on a loan basis.)

Single copies of the above publications are furnished without charge to Universities and to other educational institutions. Bulk rates can be given upon request.

Address requests to:

Center for Labor and Management
College of Business Administration
The University of Iowa
Phillips Hall
Iowa City, Iowa 52240